

What is claimed is:

1 1. A method of improving security policy administration and enforcement using a role-
2 permission model, comprising steps of:

3 identifying one or more groups of permitted actions on selected resources;

4 assigning a name to each identified group;

5 defining each assigned name to a security system as a security object; and

6 associating subjects with each assigned name.

1 2. The method according to Claim 1, wherein the assigned name is a role name.

1 3. The method according to Claim 1, wherein the selected resources are executable methods.

1 4. The method according to Claim 1, wherein the selected resources are columns of a
2 database table.

1 5. The method according to Claim 1, wherein the selected resources are rows of a database
2 table.

1 6. The method according to Claim 1, wherein the selected resources are files and the
2 permitted actions are file access operations.

1 7. The method according to Claim 1, wherein the selected resources are function calls to

2 functions of one or more executable programs.

1 8. The method according to Claim 1, wherein the selected resources are Enterprise
2 JavaBeans (“EJBs”) and the permitted actions are methods on the EJBs.

1 9. The method according to Claim 1, wherein the selected resources are servlets and the
2 permitted actions are methods of the servlets.

1 10. The method according to Claim 1, wherein the selected resources are Uniform Resource
2 Identifiers (“URIs”) and the permitted actions are methods which reference the URIs.

1 11. The method according to Claim 1, wherein the selected resources are JavaServer Pages
2 (“JSPs”) and the permitted actions are methods referenced from the JSPs.

1 12. The method according to Claim 1, wherein the selected resources are any resource that is
2 expressible to the security system and the permitted actions are selected from a set of actions that
3 are permitted on those resources.

1 13. The method according to Claim 1, further comprising the steps of:
2 receiving an access request for a particular one of the selected resources;
3 determining one or more roles which are required for accessing the particular resource;
4 determining an identity of a source of the access request;

5 for each of the required roles, until obtaining a successful result or exhausting the required
6 roles, determining whether the identity of the source is associated with the required role; and
7 authorizing access to the particular resource only if the successful result was obtained.

1 14. The method according to Claim 13, wherein the step of determining the one or more roles
2 further comprises consulting a collection created from the identified permitted actions on the
3 particular resource.

1 15. A system for improving security policy administration and enforcement in a computing
2 network using a role-permission model, comprising:

3 means for identifying one or more groups of permitted actions on selected resources;
4 means for assigning a name to each identified group;
5 means for defining each assigned name to a security system as a security object; and
6 means for associating subjects with each assigned name.

1 16. The system according to Claim 15, further comprising:

2 means for receiving an access request for a particular one of the selected resources;
3 means for determining one or more roles which are required for accessing the particular
4 resource;
5 means for determining an identity of a source of the access request;
6 for each of the required roles, until obtaining a successful result or exhausting the required
7 roles, means for determining whether the identity of the source is associated with the required

8 role; and

9 means for authorizing access to the particular resource only if the successful result was
10 obtained.

1 17. A computer program product for improving security policy administration and
2 enforcement in a computing network using a role-permission model, the computer program
3 product embodied on one or more computer readable media and comprising:

4 computer readable program code means for identifying one or more groups of permitted
5 actions on selected resources;

6 computer readable program code means for assigning a name to each identified group;

7 computer readable program code means for defining each assigned name to a security
8 system as a security object; and

9 computer readable program code means for associating subjects with each assigned name.

1 18. The computer program product according to Claim 17, further comprising:

2 computer readable program code means for receiving an access request for a particular
3 one of the selected resources;

4 computer readable program code means for determining one or more roles which are
5 required for accessing the particular resource;

6 computer readable program code means for determining an identity of a source of the
7 access request;

8 for each of the required roles, until obtaining a successful result or exhausting the required

9 roles, computer readable program code means for determining whether the identity of the source
10 is associated with the required role; and
11 computer readable program code means for authorizing access to the particular resource
12 only if the successful result was obtained.